REMARKS

Claims 1-30 have been cancelled from the application, and new claims 31-51 have been substituted therefore. No new matter has been added. It is to be noted that claims 1-30 have not been canceled for purposes relating to patentability. Rather, claims 31-51 are being substituted for claims 1-30 for purposes of clarification, and in order to present to the examiner a clean set of claims which reflect all of the presently presented claim features.

During a telephonic interview between the undersigned attorney and the examiner on July 12, 2006, the various rejections of the claims were discussed with respect to the present invention and the cited prior art references. A summary of the telephonic interview is presented below. At the conclusion of the telephonic interview, it was agreed that Liva (US2002/0136203) does not teach or suggest the following features:

a) an enhanced fiber node being operable to permit the Head End to perform service flow management operations relating to downstream channel service flow management.

b) an enhanced fiber node being operable to permit the Head End to perform packet classification operations relating to downstream channel classification.

c) an enhanced fiber node being operable to permit the Head End to MAC management operations relating to MAC management of downstream channels in the access network.

d) an enhanced fiber node being operable to not perform service flow management operations relating to downstream channel service flow management.

e) an enhanced fiber node being operable to not perform packet classification operations relating to downstream channel classification.

f) an enhanced fiber node being operable to not perform MAC management operations relating to MAC management of downstream channels in the access network.

Figure 11 of Liva (US2002/0136203) shows a portion of an enhanced Fiber Node (eFN) as taught by Liva. As illustrated in Figure 11 of Liva, the eFN includes various components for performing the following functions:

a) Downstream channel classification (e.g., DS Classifier unit);

b) Upstream channel classification (e.g., US Classifier unit);

c) MAC Service Flow management (e.g., SF mgmt unit).

Paragraphs 0117-0122 of Liva, which described Figure 11, are reproduced below:

[0117] MAC Layer Functional Overview

[0118] In an illustrative embodiment, the eFN of FIG. 3A implements all the MAC functions interfaces required to be fully compliant with DOCSIS. The eFN is

intended to be software upgradeable for present and future versions of DOCSIS. MAC layer functions beyond those required by DOCSIS are also provided to support at least two Legacy channels, with respective MIBs and Messages.

[0119] FIG. 11 illustrates the MAC functions performed by the MAC Processor and Shared Memory. These functions include: PHY configuration and monitoring; de-fragmentation, de-concatenation, and decryption; MAC management; CM management;

[0120] Service Flow (SF) management; scheduler; RF management; Upstream (US) and Downstream (DS) Classifier; Upstream (US) and Downstream (DS) Payload Header Suppression (PHS); encryption; security based on the DOCSIS Baseline Privacy and Baseline Privacy Plus [BPI+] specifications; DOCSIS DS frame generation; and CMTS MAC system management.

[0121] DOCSIS requires the mini-CMTS to support various functions and protocol layers above the MAC sublayer. These are listed in table 4, below.

[0122] The mini-CMTS is required to perform the following functions as part of managing itself: initialization and power on self-test; fault and performance monitoring; diagnostics; alarming via LEDS and the command line interface; and background maintenance functions.

From this teaching it is clear that the eFN of Liva is responsible for implementing all the MAC functions interfaces required to be fully compliant with DOCSIS. Such functions include: PHY configuration and monitoring; de-fragmentation, de-concatenation, and decryption; MAC management; CM management; Service Flow (SF) management; scheduler; RF management; Upstream (US) and Downstream (DS) Classifier; Upstream (US) and Downstream (DS) Payload Header Suppression (PHS); encryption; security based on the DOCSIS Baseline Privacy and Baseline Privacy Plus [BPI+] specifications; DOCSIS DS frame generation; and CMTS MAC system management.

Contrary to the teachings of Liva, however, at least one embodiment of the present invention is described in which the Head End (rather than the fiber node) is responsible for performing operations relating to one or more of the following:

a) service flow management operations relating to downstream channel service flow management;

b) packet classification operations relating to downstream channel classification; and/or

c) MAC management of downstream channels in the access network.

For example, the present application incorporates by reference U.S. Patent Application Serial No. 09/606,503. Figure 8 of U.S. Patent Application Serial No. 09/606,503 shows a block

diagram of an exemplary Cable Modem Termination System (CMTS) which typically is located at the Head End of a cable network. As described in U.S. Patent Application Serial No. 09/606,503, the CMTS of Figure 8 may be implemented in accordance with a standardized DOCSIS protocol such as the well-known DOCSIS 1.1 RF Interface Specification (document control number SP-RFIv1.1-I04-000407, April 7, 2000, which was incorporated by reference in its entirety in U.S. Patent Application Serial No. 09/606,503.

A copy of the DOCSIS 1.1 RF Interface Specification SP-RFIv1.1-I04-000407 has been submitted as part of an Information Disclosure Statement (IDS) filed concurrently herewith. Page 125 of the referenced DOCSIS 1.1 RF Interface Specification SP-RFIv1.1-I04-000407 includes Figure 8-3, which illustrates various functionality performed by the CMTS (located at the Head End of the cable network) and by cable modems (CM). As illustrated in Figure 8-3, the CMTS (and thus, the Head End) is responsible for performing operations relating to: service flow management operations relating to downstream channel service flow management; packet classification operations relating to downstream channel classification; and MAC management of downstream channels in the access network.

Claim 31 of the present application is directed to a packet fiber node for use in an access network including a Head End and a plurality of network nodes. As defined in claim 31, the packet fiber node is operable to communicate with the Head End using baseband optical signals that are received at the packet fiber node from the Head End and transmitted to the Head End by the packet fiber node. Additionally, the packet fiber node is operable to permit the Head End to perform at least one of: service flow management operations relating to downstream channel service flow management; packet classification operations relating to downstream channel classification; and MAC management operations relating to MAC management of downstream channels in the access network.

It is submitted that Liva does not teach or suggest the combination of features as defined in claim 31 of the present application. Accordingly, claim 31 is believed to be neither anticipated by nor obvious in view of Liva and/or any other cited prior art references of record.

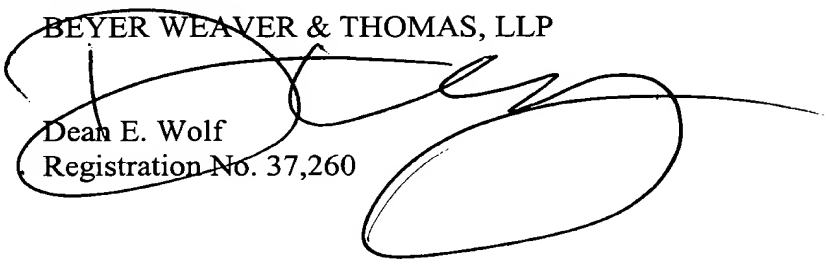
Independent claim43 define features similar to those defined in claim 31, and is therefore believed to be allowable for at least those reasons stated above in support of claim 31. Additionally, each of the presently pending dependent claims is also believed to be allowable since it depends upon a respective independent claim.

The additional limitations recited in the independent claims or the dependent claims are not further discussed as the above-discussed limitations are clearly sufficient to distinguish the claimed invention from Liva.

Because claims 31-51 are believed to be allowable in their present form, many of the examiner's rejections in the Office Action have not been addressed in this response. However, applicant respectfully reserves the right to respond to one or more of the examiner's rejections in subsequent amendments should conditions arise warranting such responses.

Applicant believes that all pending claims are allowable and respectfully requests a Notice of Allowance for this application from the Examiner. Should the Examiner believe that a telephone conference would expedite the prosecution of this application, the undersigned can be reached at the telephone number set out below.

Respectfully submitted,
BEYER WEAVER & THOMAS, LLP



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